

Work Order ID 52713

October 08, 2009 2:34:41 PM

Page 1

Item ID: D3943-053
 Revision ID: A B 04.10.29
 Item Name: Chain Assembly

Accept

Setup Start

Stop

Start Date: 10/13/2009 Start Qty: 1.00
 Required Date: 10/19/2009 Req'd Qty: 1.00




Cust Item ID:
 Customer:

Reference:

Approvals: Process Plan: mf Date: 09-10-08 Tooling: _____ Date: _____
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
<u>Draw Nbr</u>	<u>Revision Nbr</u>								
100	Weld per dwg. A/R Steel rod Batch: <u>112060</u>	0.00							
									
Large Fab	Memo	0.00							
Large Fab	ASSEMBLE BEFORE WELDING								
110	QC9- Inspect visual per QSI004- Fusion Welds	0.00							
									
QC	Memo	0.00							
Quality Control									
120	QC5- Inspect part completeness to step on W/O	0.00							
									
QC	Memo	0.00							
Quality Control									

EL 9-10-15

Plc 09 10 15

B 04.10.15 D

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 52713

October 08, 2009 2:34:41 PM



Page 2

Item ID:	D3943-053	Accept		Setup	Start	
Revision ID:	A				Stop	
Item Name:	Chain Assembly					
Start Date:	10/13/2009	Start Qty:	1.00		Cust Item ID:	
Required Date:	10/19/2009	Req'd Qty:	1.00		Customer:	
Reference:						

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	
	QC:	Date:	SPC (Y/N):	Date:		Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

130



Powdercoat
Powder Coating

Fire Red(Ref:4.3.5.10) per QSI005 4.3

0.00

Memo

mask chain from this point on prior to powder coating per (note 9) on dwg

POWDER COAT:

Start Time: _____

Oven Temperature: _____

Finish Time: _____

0.00

09-10-15

PTO

140



QC
Quality Control

QC Inspect Part Finish

0.00

Memo

0.00

1

09-10-16

150



Packaging
Packaging

Identify as per dwg & Stock Location: *STX*

0.00

Memo

0.00

pulled on w/O.

D3943-041

MF 09-10-29

W/O: 52713		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
09.11.15	130	Change to spray paint yellow with Bartrons CG 103113 Permanet Change	103113 See order 130			18 09.11.15	18 09.11.15
			Previous page SEQ 130, 140				

Part No: D3943-053 PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 52713

October 08, 2009 2:34:41 PM



Page 3

Item ID: D3943-053

Accept



Setup Start



Revision ID: A

Stop



Item Name: Chain Assembly

Start Date: 10/13/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 10/19/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

09/10/29 *Handwritten signature**MF*

09-10-16

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

October 08, 2009 2:34:41 PM

Page 1

Work Order ID: 52713

Parent Item: D3943-053RevA

Parent Item Name: Chain Assembly



Comments:

Start Date: 10/13/2009

Required Date: 10/19/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3943-9RevA 		Manufactured	No			100	Each	0.0000	1.0000			
Chain												
D3954-5RevA 		Manufactured	No			100	Each	7.0000	1.0000			
Chain Lug												

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST139C

7

52098

6

52191

1

D3954-9RevA

Manufactured

No

100

Each

6.0000

1.0000



GWT Chain Pin

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

6

48344

1

52100

4

52193

1

MF 09-10-15

MF 09-10-15

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

ITEM No.	QTY -041	QTY -051	QTY -053	PART NUMBER	DESCRIPTION	PREFERED SUPPLIER
1	X			D3943-041	GROUND HANDLING CRANK ASSEMBLY	
5	1	X		D3943-051	HANDLE ASSEMBLY	
6	1		X	D3943-053	CHAIN ASSEMBLY	
11		1		D3943-1	HANDLE	M/F HANDLE FROM DIS-ASSEMBLED ITEM 39
12	1			D3943-3	HANDLE EXTENSION	
13		1		D3943-5	PLATE	
14		2		D3943-7	STUD	
15			1	D3943-9	CHAIN	USE CHAIN SUPPLIED WITH ITEM 39
21	1			D2690-4	LANYARD	
22	1			D3585-1	SET SCREW	
23	1			D3949-041	REMOVE BEFORE FLIGHT FLAG	
24			1	D3954-5	CHAIN LUG	
25	1			D3954-7	RATCHET LUG	
26			1	D3954-9	GWT CHAIN PIN	
31	1			AN4-10A	BOLT	
32	1			AN960-416	WASHER	
33	1			MS21042-4	NUT	
39	1			8143919	LEVER CHAIN HOIST (POWER FIST)	PRINCESS AUTO / 4000 lbs CAPACITY
41	1			S-1475	SPRING	REID SUPPLY
42	1			3408A59	BALL PLUNGER	McMASTER CARR
43	3			HX-15	SOCKET HEAD CAP SCREW 1/4-20 UNC X 0.75 LG	HASKINS

#52713

RELEASED
09/05/13

A	NEW ISSUE	AJS	09.05.13
REV.	DESCRIPTION	BY	DATE
DESIGN	DSTOW / AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS	DRAWING NO.	REV. A
CHECKED		D3943	SHEET 1 OF 5
MFG. APPR.		TITLE	SCALE
APPROVED		GROSS WEIGHT TOW CRANK ASSY	NTS
DE APPR.	N/A	COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DATE	09.05.13		

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8 7 6 5 4 3 2 1

D

C

B

A

D

C

B

A

REMOVE AND RETAIN
RUBBER HAND GRIP

RE-INSTALL
RUBBER HAND-GRIP
HERE

D3943-3
HANDLE EXTENSION

AN4C10
AN960C416 WASHER
MS21043-4 NUT

D2690-4 LANYARD

D3949-041 FLAG

HX-15 S/H CAP SCREW

HX-15 S/H CAP SCREW
S-1475 SPRING

3408A59
BALL PLUNGER

D3585-1 SET SCREW

DISCARD PIN

RETAIN PIN

REMOVE &
DISCARD HOOK

REMOVE & DISCARD HOOK

8143919 LEVER CHAIN HOIST
(SHOWN PRIOR TO MODIFICATION)
(CHAIN SHOWN SHORTENED FOR CLARITY)

8143919
LEVER CHAIN HOIST

(CHAIN NOT SHOWN FOR CLARITY)

#52713

RE-INSTALL PIN

D3943-7 RATCHET LUG

D3943-053 CHAIN ASSY

(CHAIN SHOWN SHORTENED FOR CLARITY)

D3943-041 GROUND HANDLING CRANK ASSEMBLY

RELEASED
09/05/13

NOTES -041:

- 1) MATERIAL: N/A
- 2) FINISH: DISASSEMBLE LEVER CHAIN HOIST (ITEM 39) AND POWDER COAT "RED" (4.3.5.10) PER DART QSI 005 4.3 PARTS INDICATED
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3943-041" USING FINE POINT PERMANENT INK MARKER

DESIGN	DSTOW/AJS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D3943	SHEET 2 OF 5
APPROVED		TITLE	SCALE
DE APPR.		GROSS WEIGHT TOW CRANK ASSY	NTS
DATE	09.05.13	COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	

8 7 6 5 4 3 2 1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

D3943-1 HANDLE

2 PL

9.75

2.00

Ø.30
THRU

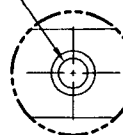
Ø.12
THRU

0.41

D3943-7 STUD
2 PL

THREAD $\frac{1}{2}$ -20 UNC-2B
2 PL

THREAD $\frac{1}{2}$ -20 UNC-2B
THRU



VIEW A-A
A5-3
(SCALE 2X) B5-3

2 PL

9.37

A B1-3

A B1-3

D3943-5 PLATE

D3943-051 HANDLE ASSEMBLY

NOTES -051:

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT "RED" (4.3.5.10) PER DART QSI 005 4.3
- 3) TOLERANCES: X.XX DIMENSIONS +/- 0.06 ALL OTHERS
PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) MASK ALL THREADS PRIOR TO POWDER COATING

DESIGN	DSTOW / AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS	DRAWING NO.	REV. A
CHECKED		D3943	SHEET 3 OF 5
MFG. APPR.		TITLE	SCALE
APPROVED		GROSS WEIGHT TOW CRANK ASSY	NTS
DE APPR.	N/A	COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	
DATE	09.05.13		

#52713

RELEASED
8/26/03

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8 7 6 5 4 3 2 1

D

D

D3943-9 CHAIN

D3954-5 CHAIN LUG

C

C

B

B

D3954-9 GWT PIN




D3943-053 CHAIN ASSEMBLY

#52713

RELEASED
21/6/03

NOTES -053:

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT FIRE RED (4.3.5.10) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: N/A
- 8) WELD PER QSI 004
- 9) MASK CHAIN FROM THIS POINT ON PRIOR TO POWDER COATING

DESIGN	DSTOW / AJS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D3943	SHEET 4 OF 5
APPROVED		TITLE	SCALE
DE APPR.	N/A	GROSS WEIGHT TOW CRANK ASSY	NTS
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8 7 6 5 4 3 2 1

A

A

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

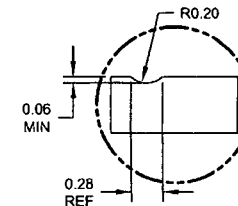
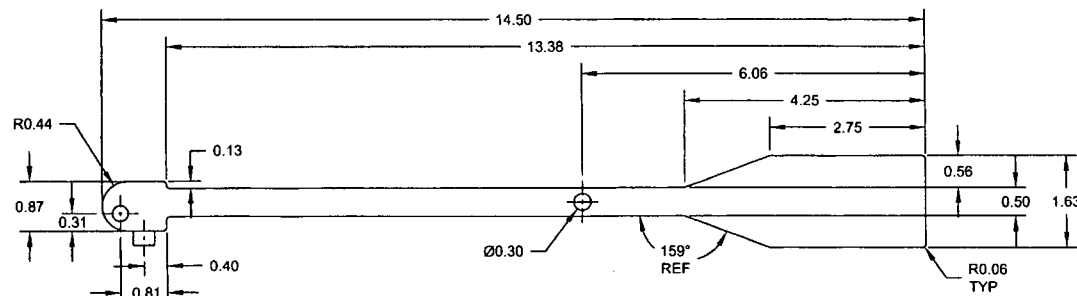
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

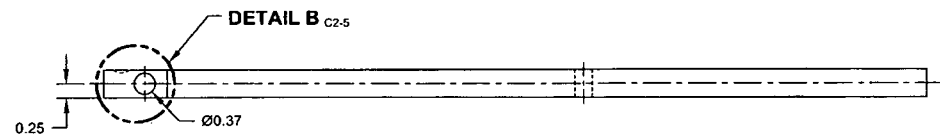
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8 7 6 5 4 3 2 1

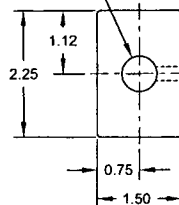


DETAIL B-B C7-5
(Dimple Detail)
(Scale 2X)

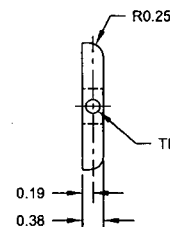


D3943-3 HANDLE EXTENSION

THREAD 1/8-11 UNC-2B

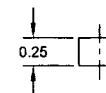


D3943-5 PLATE



THREAD 1/8-28 UNF-2B

Ø0.37 PILOT HOLE PER SHOP REQUIREMENT



D3943-7 STUD
(Scale 2X)

NOTES -11/-13:

1) MATERIAL -3 & -5: MILD STEEL, SHEET
AISI 1010-1025 OR ASTM A36/A366/A1008
OR CSA G40-21, 38W/44W/50W/60W/70W
REF DART SPEC M1010-S

OR: MILD STEEL, BAR
AISI 1010-1025 OR ASTM A36/A366/A569/A570
OR CSA G40-21, 38W/44W/50W/60W/70W
REF DART SPEC M1010-B

-7: MILD STEEL, ROUND BAR
AISI 1018-1025
PER MIL-S-7097
REF DART SPEC M1018-R

- 2) FINISH -3: POWDER COAT "WHITE" (4.3.5.1) PER DART QSI 005 4.3 PARTS INDICATED
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A

DESIGN	DSTOW / AJS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	is	DRAWING NO.	REV. A
MFG. APPR.	RED	D3943	SHEET 5 OF 5
APPROVED	MJD	TITLE	SCALE
DE APPR.	N/A	GROSS WEIGHT TOW CRANK ASSY	NTS
DATE	09.05.13	COPYRIGHT © 2009 BY DART AEROSPACE LTD	
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RELEASED
09/06/09

8 7 6 5 4 3 2 1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

ITEM No.	QTY -041	QTY -051	QTY -053	PART NUMBER	DESCRIPTION	PREFERRED SUPPLIER
1	X			D3943-041	GROUND HANDLING CRANK ASSEMBLY	
5	1	X		D3943-051	HANDLE ASSEMBLY	
6	1		X	D3943-053	CHAIN ASSEMBLY	
11		1		D3943-1	HANDLE	M/F HANDLE FROM DIS-ASSEMBLED ITEM 39
12	1			D3943-3	HANDLE EXTENSION	
13		1		D3943-5	PLATE	
14		2		D3943-7	STUD	
15			1	D3943-9	CHAIN	USE CHAIN SUPPLIED WITH ITEM 39
21	1			D2690-4	LANYARD	
22	1			D3585-1	SET SCREW	
23	1			D3949-041	REMOVE BEFORE FLIGHT FLAG	
24			1	D3954-5	CHAIN LUG	
25	1			D3954-7	RATCHET LUG	
26			1	D3954-9	GWT CHAIN PIN	
31	1			AN5-11A	BOLT	
32	1			AN960-516	WASHER	
33	1			MS21042L5	NUT	
39	1			8143919	LEVER CHAIN HOIST (POWER FIST)	PRINCESS AUTO / 4000 lbs CAPACITY
41	1			S-1475	SPRING	REID SUPPLY
42	1			3408A59	BALL PLUNGER	McMASTER CARR
43	3			HX-15	SOCKET HEAD CAP SCREW 1/4-20 UNC X 1.0 LG	HASKINS

52713
RELEASED
2009-10-19

B	SHT 1 PL, ITEM 31 WAS AN4-10A, ITEM 32 WAS AN960-416, ITEM 33 WAS MS21042-4, ITEM 43 WAS 0.75 LG. SHEETS 2 - 5 NOTES: FINISH FOR ALL COMPONENTS NOW YELLOW SPRAY PAINT.	AJS	09.10.15
A	NEW ISSUE	AJS	09.05.13
REV.	DESCRIPTION	BY	DATE
DESIGN	DSTOW / AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS	DRAWING NO.	REV. B
CHECKED		D3943	SHEET 1 OF 5
MFG. APPR.		TITLE	SCALE
APPROVED		GROSS WEIGHT TOW CRANK ASSY	NTS
DE APPR.	N/A	COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DATE	09.10.15		

8 7 6 5 4 3 2 1

REMOVE AND RETAIN
RUBBER HAND GRIP

RE-INSTALL
RUBBER HAND-GRIP
HERE

D3943-3
HANDLE EXTENSION

AN5-11A BOLT
AN960-516 WASHER
MS21042L5 NUT

D2690-4 LANYARD

D3949-041 FLAG

3408A59
BALL PLUNGER

HX-15 S/H CAP SCREW

HX-15 S/H CAP SCREW
S-1475 SPRING

8143919
LEVER CHAIN HOIST

D3585-1 SET SCREW

DISCARD PIN

RETAIN PIN

RE-INSTALL PIN

D3943-7 RATCHET LUG

D3943-053 CHAIN ASSY

8143919 LEVER CHAIN HOIST
(SHOWN PRIOR TO MODIFICATION)
(CHAIN SHOWN SHORTENED FOR CLARITY)

(CHAIN NOT SHOWN FOR CLARITY)

(CHAIN SHOWN SHORTENED FOR CLARITY)

D3943-041 GROUND HANDLING CRANK ASSEMBLY

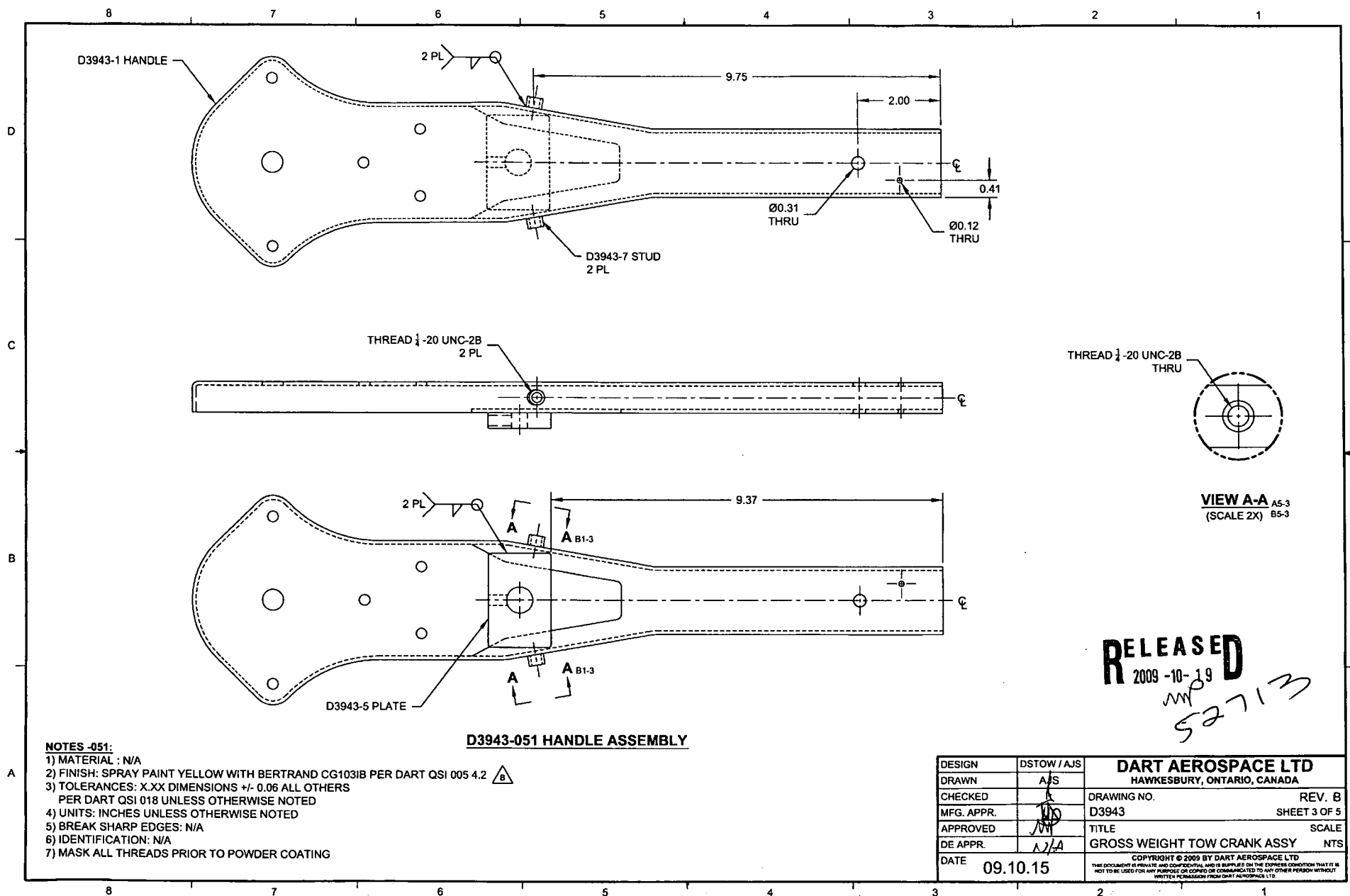
NOTES -041:

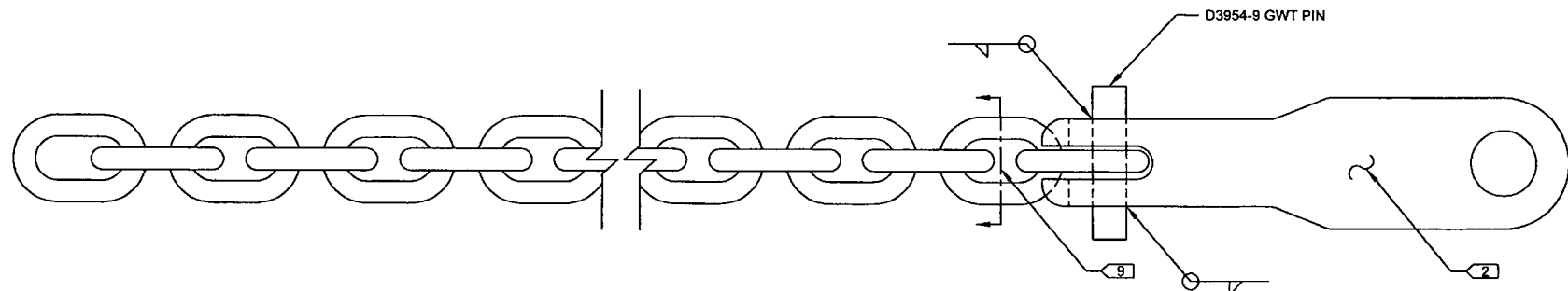
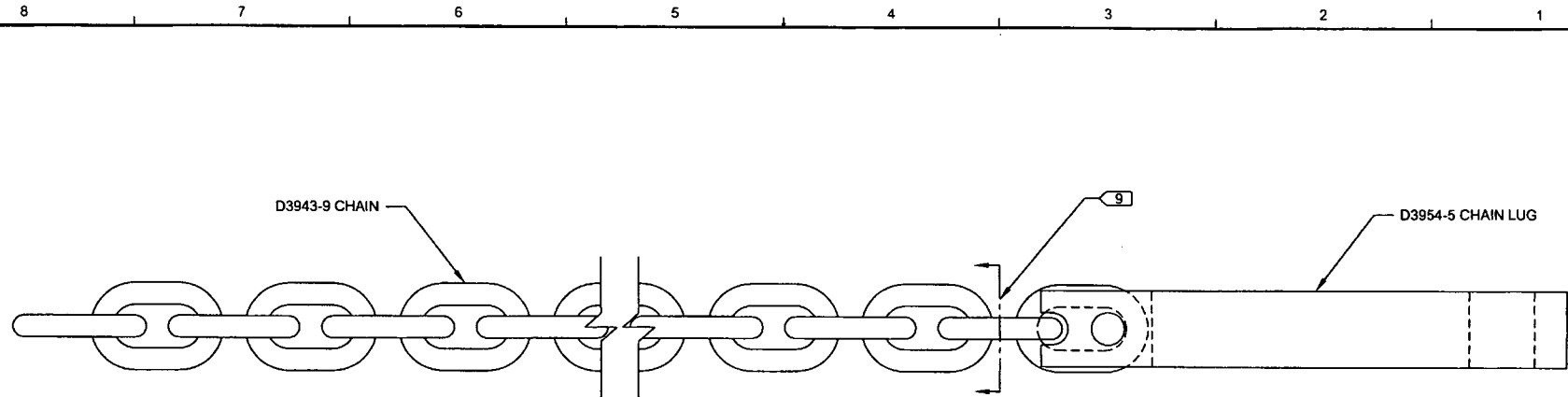
- 1) MATERIAL: N/A
- 2) FINISH: DISASSEMBLE LEVER CHAIN HOIST (ITEM 39) AND SPRAY PAINT YELLOW WITH BERTRAND CG1031B PER DART QSI 005 4.2
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3943-041" USING FINE POINT PERMANENT INK MARKER

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DESIGN	DSTOW / AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	ABS	DRAWING NO.	REV. B
CHECKED		D3943	SHEET 2 OF 5
MFG. APPR.		TITLE	SCALE
APPROVED		GROSS WEIGHT TOW CRANK ASSY	NTS
DE APPR.		COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DATE	09.10.15		


8 7 6 5 4 3 2 1








D3943-053 CHAIN ASSEMBLY

NOTES -053:

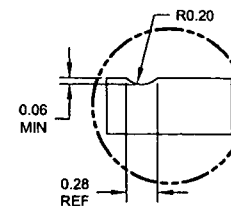
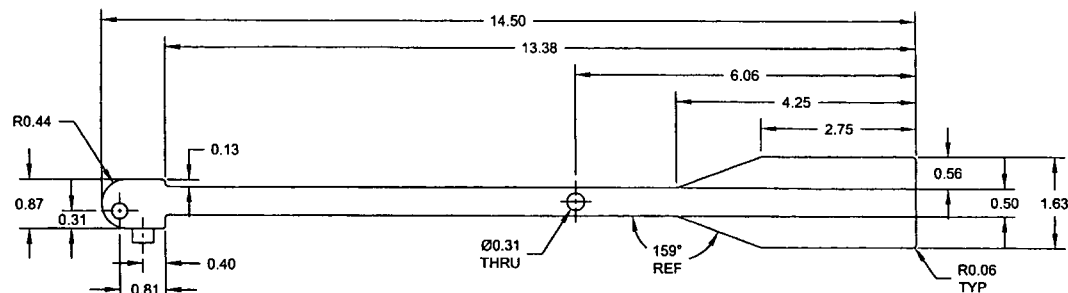
- 1) MATERIAL: N/A
- 2) FINISH: SPRAY PAINT YELLOW WITH BERTRAND CG1031B PER DART QSI 005 4.2 
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: N/A
- 8) WELD PER QSI 004
- 9) MASK CHAIN FROM THIS POINT ON PRIOR TO POWDER COATING

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MFG. APPR.		D3943	SHEET 4 OF 5
APPROVED		TITLE	SCALE
DE APPR.		GROSS WEIGHT TOW CRANK ASSY	NTS
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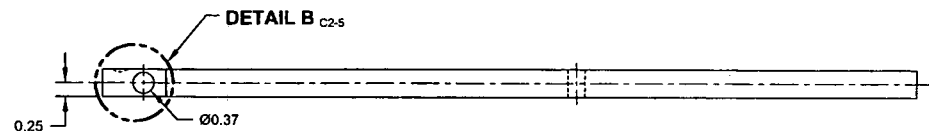
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2009-10-19
MP

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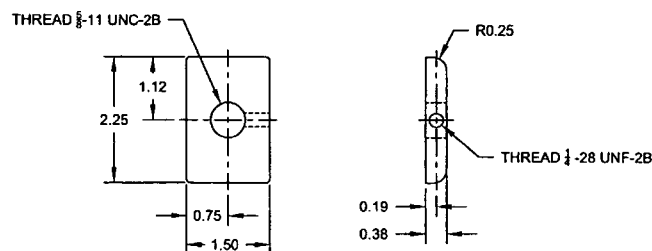
8 7 6 5 4 3 2 1



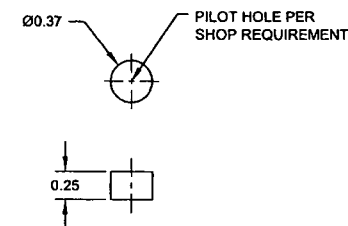
DETAIL B-B C7-5
(DIMPLE DETAIL)
(SCALE 2X)



D3943-3 HANDLE EXTENSION



D3943-5 PLATE



D3943-7 STUD
(SCALE 2X)

NOTES -11/-13:

- 1) MATERIAL -3 & -5: MILD STEEL, SHEET
AISI 1010-1025 OR ASTM A36/A366/A1008
OR CSA G40-21, 38W/44W/50W/60W/70W
REF DART SPEC M1010-S
- OR : MILD STEEL, BAR
AISI 1010-1025 OR ASTM A36/A366/A569/A570
OR CSA G40-21, 38W/44W/50W/60W/70W
REF DART SPEC M1010-B
- 7: MILD STEEL, ROUND BAR
AISI 1018-1025
PER MIL-S-7097
REF DART SPEC M1018-R

- 2) FINISH -3: SPRAY PAINT YELLOW WITH BERTRAND CG1031B PER DART QSI 005 4.2
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A

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MFG. APPR.		D3943	SHEET 5 OF 5
APPROVED		TITLE	SCALE
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8 7 6 5 4 3 2 1